

ICT

1

Lesson preparation book

prep1

Second term



Teacher 's Biography

Name:

School:

The educational administration:

Qualification:

Teaching Subject:

Comprehensive School:

The school to which he is delegated:

Date of appointment:

The job is on the staff:

Teacher Code:

Mobile Number:

Teacher

Supervisor

School Principal

Daily class schedule

Session Day	First	Second	Third	Fourth	Fifth	Sixth	Seventh	Eightieth	Ninth
Saturday									
Sunday									
Monday									
Tuesday									
Wednesday									
Thursday									

Session Day	First	Second	Third	Fourth	Fifth	Sixth	Seventh	Eightieth	Ninth
Saturday									
Sunday									
Monday									
Tuesday									
Wednesday									
Thursday									

Teacher

Supervisor

School Principal

General objectives of the subject of Computer Science and Information and Communication Technology

At the end of the second term the student will be able to :

- **Understanding** the concept of artificial intelligence and its impact on our lives.
- **Understand** the uses and types of sensors.
- **Definition** of the concept of robotics.
- **Realizing** the importance of programming languages.
- **Explain** the types of sensors and robots.
- **Learn** how to use Scratch.
- **Gaining** the skill of dealing with programming languages.
- **Explanation** of the concept of the Python programming language.
- **Use** of robotics and sensor technologies.
- **Learn** the basics of the Python programming language.

Teacher

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Specific objectives of the subject of Computer Science and Information and Communication Technology

At the end of the second term the student will be able to:

- **Review** some practical applications of artificial intelligence.
- **List** the types of artificial intelligence.
- **Suggest** the largest number of ideas for the uses of artificial intelligence in our lives.
- **Mention** the different types of sensors and their areas of use.
- **Design** a simple project based on the idea of sensors.
- **Explains** Robot concept.
- **Count** Types of robots and their functions.
- **Suggest** the largest number of ideas for the uses of robots in our lives.
- **Explain** Uses of Scratch.
- **Used** Scratch program In a small project.
- **Discuss** The concept of the object area in Scratch.
- **Create** Simple Scratch Project.
- **Develop** Project "adds - deletes - modifies" objects on the project.
- **Explain** Python programming language concept.
- **Count** Uses of Python.
- **Practice** Steps to download Python language to the device.
- **Explain** Concept of changes.
- **Conclude** Types of variables.
- **Write** Simple Python Programming Code.

Teacher

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School Principal

Distribution of computer and information technology content
For 3rd.Prep 2025 / 2026 - Second Term

MONTH	week	DATE	TOPIC	Evaluations
February 2025	1	8/2/2025	Artificial Intelligence Applications	وفقا لقرار ١٣٧ يتم عمل اختبار أسبوعي واختبار شهري ١
	2	15/2/2025	Sensors	
	3	22/2/2025	Robot	
March 2025	4	1/3/2025	Scratch	
	5	8/3/2025	Scratch	
	6	15/3/2025	Sprites Area in Scratch	
	7	22/3/2025	Sprites Area in Scratch	
	8	29/3/2025	Sprites Area in Scratch	
April 2025	9	5/4/2025	Principles of Python	عيد الفطر اختبار اسبوعي اختبار شهر 2 عيد العمال وتحري سيناء
	10	12/4/2025	Principles of Python	
	11	19/4/2025	Principles of Python	
	12	26/4/2025	Principles of Python	
May2025	13	3/5/2025	REVISION - Practical Exam	
	14	10/5/2025		

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Grade	Class	Date	Period	Term	Lesson	Lesson Title
PREP 1				Second	1	Artificial intelligence Applications

Introduction / How has artificial intelligence helped us improve services in life?

Lesson objectives/ Suggest the largest number of ideas for the uses of artificial intelligence in our lives.

-Lists types of artificial intelligence.

- Review some practical applications of .artificial intelligence.

Skills, values and issues covered in the lesson	Teaching Aids	Assistive technology for integration students if available	Teaching strategies	Subject	Educational activities	Formative assessment	Evaluation
Learning to Be: Technologically aware Work Values: Cooperation Global Issues: Confronting global challenges through digital	Electronic board - book-presentation		☐ Brainstorming ☐ Problem Solving ☐ Dialogue and discussion	Artificial intelligence : is not just one type, but there are many and varied types. Imagine that we have a large garden full of different flowers, each flower has a different shape and color, and so is the case with artificial intelligence ▽ Here are the types of artificial intelligence: ↓ Narrow AI This type focuses on performing a specific task ↓ Artificial General Intelligence This type is more advanced and can do any task that a human can do ↓ super artificial intelligence This type is the most advanced and can easily solve problems that are difficult for humans to solve Applications of artificial intelligence in daily life: - Personal Assistant - Digital Doctors - Smart Games - Instant Translator - Smart Cars - Smart Shopping Artificial intelligence fields: Machine Learning. Robotics. -Natural Language Processing. -Expert Systems- -Computer Vision -Deep Learning Create intelligent models to recognize images, sounds, and movements using machine learning "Full steps in the book	With the help of your teacher, suggest new ideas for using artificial intelligence in our lives.*	Using PowerPoint, design an advertising poster that illustrates the most important applications of artificial intelligence.	Solve the book's questions :
Weekly Assessment				Put (✓) Or(x):- Artificial intelligence is a branch of computer science()			

Grade	Class	Date	Period	Term	Lesson	Lesson Title
PREP 1				Second	2-1	Sensors

Introduction / How do sensors work?

Lesson objectives/ Mention the different types of sensors and their areas of use.

- **list** The importance of sensors in our modern life.

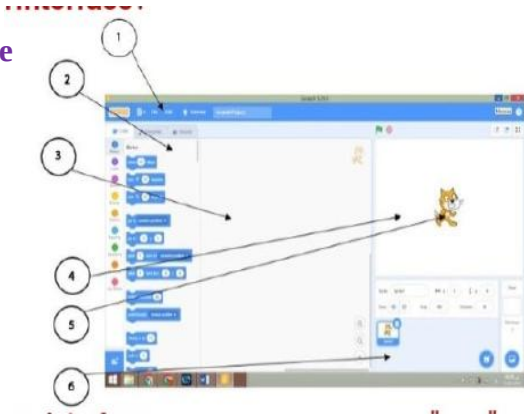
- **Design** a simple project based on the idea of sensors.

Skills, values and issues covered in the lesson				Teaching Aids	Assistive technology for integration students if available	Teaching strategies	Subject			Educational activities	Formative assessment	Evaluation
Learning to Be: Work values Work Values: Cooperation Global Issues: Research exploration				Electronic board-book-presentation -cards for some sensors		Collaborative Learning Dialogue and discussion	Sensors: They are devices that sense changes in the surrounding environment and convert them. To signals so that machines and devices can understand them and make appropriate decisions based on them. On it, it is considered the eye and ear of machines. Sensors work through main steps: Sensing It picks up information from the surrounding environment)such as heat, light, sound Signal Conversion:This information is converted into electrical signals that can be Read by electronic devices Transmission: Signals are sent to another device to display the results or perform aspecific operation Sensors The robot's "senses" help it see, hear, sense, and even touch things around it Types of robotic sensors: Distance Sensors: Measure the distance between the robot and surrounding obstacles With it, this helps the robot avoid collision Sound sensors :are used in robots that react to sounds. Motion Sensors :These help... Sensors allow the robot to navigate and interact with surrounding objects Special sensors: such as temperature and humidity sensors. light sensors: are used in robots that operate in places where there is Light is changing, such as home robots. These sensors help the robot to Adapting to lighting changes Some examples of electronic devices that use sensors: vacuum cleaner robot Surgical Robot Self-driving cars			In cooperation with your classmates, design a project based on the idea of sensing devices.	Using Microsoft Word, write the steps for how sensing devices work.	Solve the book's questions :
Weekly Assessment							complete: The main function of the sensor is.....					

Grade	Class	Date	Period	Term	Lesson	Lesson Title
PREP 1				Second	4	Scratch

Introduction / What is Scratch? Suggest some simple projects where Scratch can be used.

Lesson objectives/ Explain Uses of Scratch. **-Deduce** the features of the Scratch program. **-Use** Scratch program to create a small project.

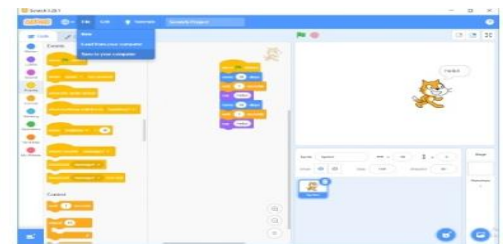
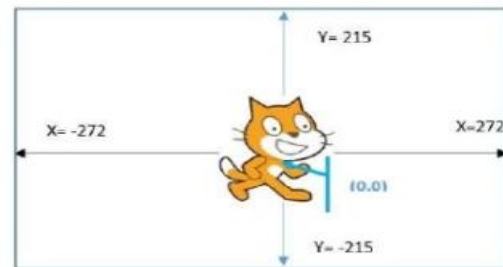
Skills, values and issues covered in the lesson	Teaching Aids	Assistive technology for integration students if available	Teaching strategies	Subject	Educational activities	Formative assessment	Evaluation
Learning to Be : Work values Work Values: Exploration Global Issues: Facilitating the global use of technology	Electronic board-book-presentation - Scratch program		☐ Dialogue and discussion ☐ practical training	Scratch: is a fun and easy-to-use educational tool that allows you to learn the basics of programming in a visual and fun way without having to write a lot of complex code Scratch features:- ➡Simple interface ➡Free program ➡Enhancing problem solving skills ➡An exciting start to the world of programming ➡Educational program ➡Developing creative thinking ➡Developing collaboration skills ➡Project sharing Download the program- : Scratch. The program is downloaded from https://scratch.mit.edu/download through the following site Getting to know the program interface:- 1Menu Bar. 2Command Blocks Area. 3Script Area 4Stage Area 5Sprite object. 6Sprites Area Change the language of the program interface: The complete steps are in the "book" Project(1): Move the sprite(cat)on stage 30 Steps Then the phrase "Good morning" appears The complete steps are in the "book". 	Using Scratch, create a small project (of your choice).	Using Scratch, create a small project (of your choice).	Solve the book's questions
Weekly Assessment				Put (✓) Or(x):- In the Scratch program, the student needs to write a lot of complex codes()			

Grade	Class	Date	Period	Term	Lesson	Lesson Title
PREP 1				Second	4-2	Scratch

Introduction / What is Scratch? Suggest some simple projects where Scratch can be used.

Lesson objectives/ Explain Uses of Scratch. -Deduce the features of the Scratch program. -Use Scratch program to create a small project.

				Subject			Educational activities	Formative assessment	Evaluation
Skills, values and issues covered in the lesson	Teaching Aids	Assistive technology for integration students if available	Teaching strategies						
Learning to Be: Technological awareness Work Values: Cooperation Global Issues: Keeping up with the development of devices and software	Electronic board-book-presentation - Scratch program		practical training Dialogue and discussion	Modify "the project(1):- To make the movement continuous "the complete steps in the school book Determine the value of the object's coordinates on the platform?" Full steps in the book" Change the value of the object's coordinates on the platform?" Full steps in the book" Note that: Before implementing the project, the value of the object's coordinates on the platform is: X=0.It is the horizontal axis and represents the horizontal movementY=0 and it is the vertical axis and represents the vertical movement The Sprite. can be controlled by clicking on it and dragging and dropping Save the project in a file 1-From the File menu, choose Save to your computer. 2-Selecta location to save the file on one of the storage media. 3-Type the file name "Project 1"			sing Scratch, create a small project (of your choice)	On your device, change the program's interface language.	Solve the book's questions
Weekly Assessment				Put (✓) Or(x):- In Scratch, students have difficulty sharing projects with others ()					

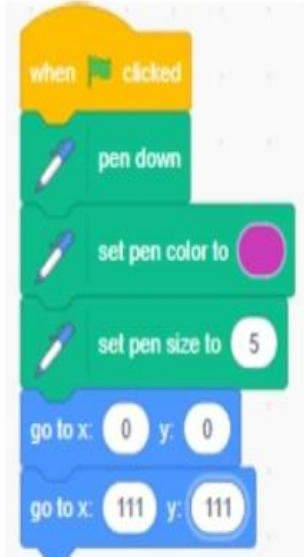


Grade	Class	Date	Period	Term	Lesson	Lesson Title
PREP 1				Second	5-3	Sprites Area in Scratch

Introduction / How can you set up a simple project on Scratch?

Lesson objectives/

-Discuss The concept of the object area in Scratch. **-Creates** Simple Scratch Project. **-Develops** Project "adds - deletes -. modifies" objects on the project.

Learning to Be: Technological awareness Work Values: Cooperation Global Issues: Participation in the digital world				Skills, values and issues covered in the lesson	Teaching Aids	Assistive technology for integration students if available	Teaching strategies	Subject	Educational activities	Formative assessment	Evaluation	
Electronic board-book-presentation - Scratch program							practical training Dialogue and discussion	Activities and projects: Square Drawing Project: 1) Open a new project: Open Scratch and start a new project. 2) Select the pen: We will use the "pen" to draw our image. In the code area, find the pen" section and drag the" pen" block down. This block will make the pen start .drawing 3) Determine the color and size Before you start drawing, you can specify the line color "and size using the blocks in the "Pen section. 4) Move the pen: We will move the pen to draw the shape we want. Use the "Go to:" x:y block to define the starting point, then use the "Go to:" x:y block again to define the ending point. This will make the pen draw a straight line between the two points. 5) Repeat the steps: Repeat the previous steps to draw more lines and form the shape who you want Notes: Drawing different shapes You can draw any geometric shape by specifying the start and end points of the lines appropriately Add details You can add details to your photo such as eyes, mouth an dears.		Draw a geometric shape and add details to your project	Adjust your previous project by editing the objects.	Solve the book's questions
Weekly Assessment				Put (✓) Or(x):- The object can be deleted from the platform ()								

Grade	Class	Date	Period	Term	Lesson	Lesson Title
PREP 1				Second	6	Principles of Python

Introduction / What is the Python programming language?

Lesson objectives/

- **Explains** Python programming language concept. -**List** the uses of the Python language. -**Practice** Steps to download Python language to the device.

Skills, values and issues covered in the lesson	Teaching Aids	Assistive technology for integration students if available	Teaching strategies	Subject	Educational activities	Formative assessment	Evaluation
Learning to Be: Technological awareness Work Values: Cooperation Global Issues: Participation in the digital world	- Electronic board-book-presentation		☐ Dialogue and discussion ☐ brainstorming	What is Python language? The first version of the language was in 1991. It is a programming language widely used in data science and machine learning. To develop websites and applications Python language features: Open source: Python language is free and open source which allows everyone to use and develop it. Interpreted language: Which means that it translates the codes line by line, so if there are errors in the program code it will stop working, as programmers can find errors in the codes quickly. Versatile: It can be used in developing web applications, data science, artificial intelligence, machine learning, and game programming Easy to use language: It is one of the easiest programming languages for beginners because of its simple and organized syntax and uses words similar to English unlike other programming languages. Integration: Python can be integrated with other languages such as C++, C and Java and can be used in cross-platform software development. Libraries: Python has many libraries that you can use PYTHON 	Design an advertising poster that highlights the features of the Python language	On your device, install the Python language	Solve the book's questions
Weekly Assessment				Put (✓) Or (x):- Python is one of the most difficult programming languages ()			

Grade	Class	Date	Period	Term	Lesson	Lesson Title
PREP 1				Second	6-2	Principles of Python

Introduction / What is the Python programming language?

Lesson objectives/

- **Explains** Python programming language concept. -**List** the uses of the Python language. -**Practice** Steps to download Python language to the device.

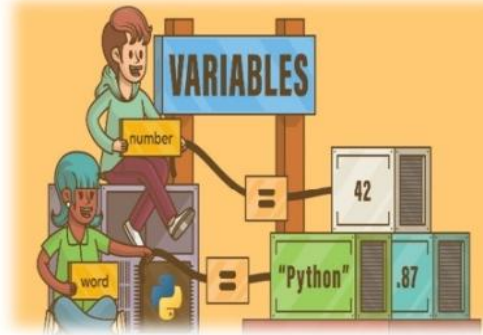
Skills, values and issues covered in the lesson	Teaching Aids	Assistive technology for integration students if available	Teaching strategies	Subject	Educational activities	Formative assessment	Evaluation
Learning to Be: Technological awareness Work Values: Cooperation Global Issues: Participation in the digital world	Electronic board-book-presentation		☐ Dialogue and discussion ☐ brainstorming	Python libraries: -Python libraries are a set of pre-built codes and functions that help programmers perform tasks. Specific without having to write codes from scratch ←Libraries are a powerful tool that increases the efficiency and effectiveness of programming Using Python ←It provides ready-made solutions to many common problems or requirements. For example:- Num Py :is a library widely used in data science, statistics and artificial intelligence Pandas: is a library for analyzing and processing data. Mat plot lib :is a library for creating graphs and charts. How to download the program from the official website: Visit the official Python website www.python.org..... "The complete steps are in the book". 	Design an advertising poster that highlights the features of the Python language	On your device, install the Python language	Solve the book's questions
Weekly Assessment				Put (√) Or(x):- Python is one of the most difficult programming languages ()			

Grade	Class	Date	Period	Term	Lesson	Lesson Title
PREP 1				Second	7	Variables in Python

Introduction / What are variables in programming languages?

Lesson objectives/- Explains Concept of variables. **-Deduce** the types of variables.

-write Simple programming Code in python.

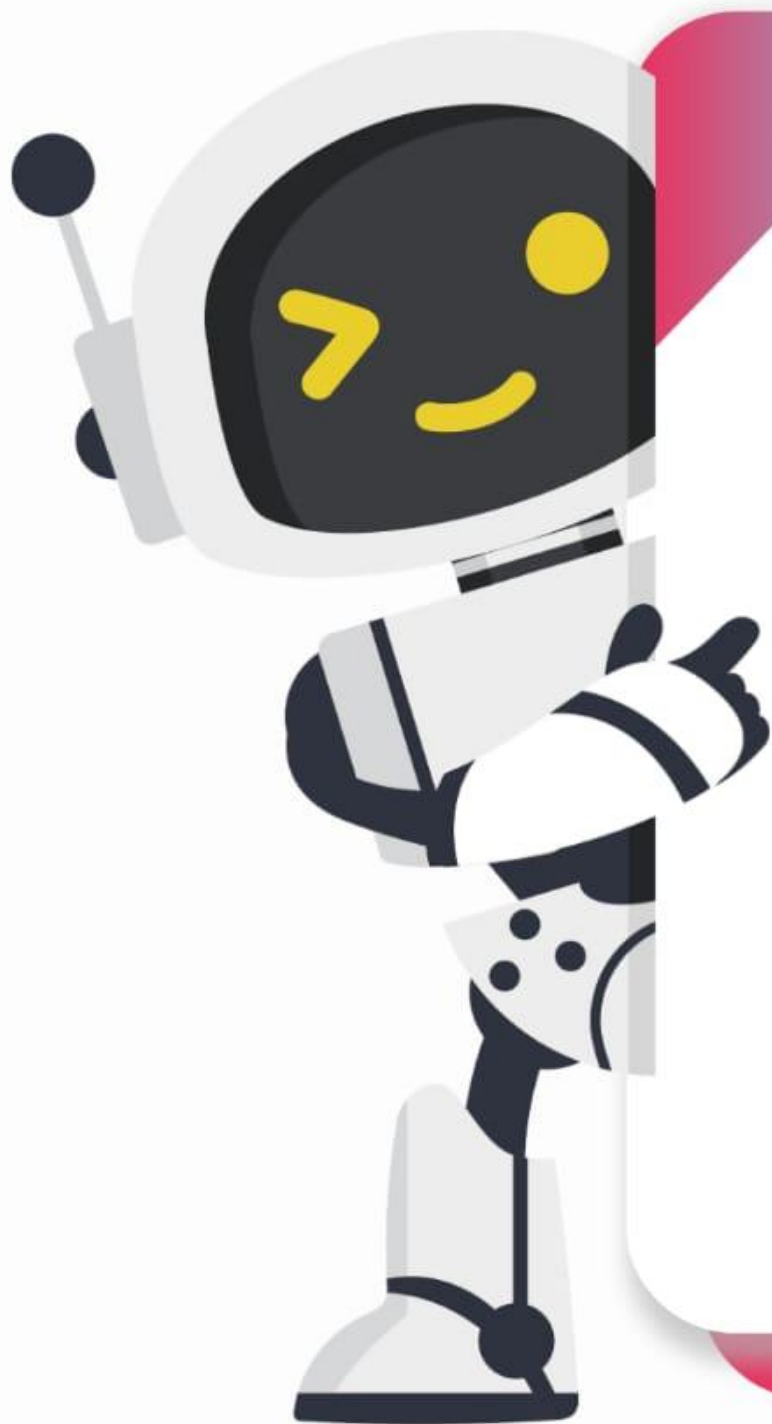
Skills, values and issues covered in the lesson	Teaching Aids	Assistive technology for integration students if available	Teaching strategies	Subject	Educational activities	Formative assessment	Evaluation
Learning to Be: Technological awareness Work Values: Cooperation Global Issues: Participation in the digital world - Electronic board-book-presentation			☐ Dialogue and discussion ☐ Practical Training	Variables in programming languages represent a reserved place in memory to store and preserve a specific value, where the value can change. Conditions for naming variables in Python: 1. The variable name begins with a letter or an underscore_. 2. The change name contains letters (A-Z) or numbers or an underscore_ 3. Reserved words may not be used in Python because they express specific values that the program understands Note: When writing a variable name, you must take into account placing the variable names in upper and lowercase letters (example: TAHER, Taher, taher, TaheR) In the previous example, the variable names refer to four variables and not one variable.. 	Based on your understanding of variables, prepare simple Python programming codes.	With the help of your teacher, write a simple code using Python	Solve the book's questions
Weekly Assessment				Put (✓) Or(x):- The variable name must not begin with a letter or an underscore ()			

Grade	Class	Date	Period	Term	Lesson	Lesson Title
PREP 1				Second	7-2	Variables in Python

Introduction / What are variables in programming languages?

Lesson objectives/- **Explains** Concept of variables. **-Deduce** the types of variables. **-write** Simple programing Code in python.

Skills, values and issues covered in the lesson	Teaching Aids	Assistive technology for integration students if available	Teaching strategies	Subject	Educational activities	Formative assessment	Evaluation
Learning to Be: Technological awareness Work Values: Cooperation Global Issues: Participation in the digital world - Electronic board-book-presentation			Dialogue and discussion Practical Training	Types of variables in Python: Numbers: (Used to store numerical values such as integers and floats. Integer variables : X=5 Y=10 Decimal variables : Z=5.25 A=8.32 Strings: Used to store text such as names and addresses. Texts are placed between single quotes. 'or double" Name="Taher" City = 'Cairo' Boolean values: A data type that can only have two values True or False. Often used for comparisons and decision making in codes Is_Taher_student = False Is Taher a teacher=True Python program interface: 1- Through the interactive Python interface, you can: (Python Shell Writing Simple Codes And implement it directly to see the results. 2- Text Editor: Allows you to write longer, more complex codes and save them for later use. -The Python Interactive Interface is installed when you install Python and does not need to be downloaded, unlike the editor. The script must be downloaded from the Internet such as Visual Studio and PyCharm -To know the type of a variable you can use the type() function. ←() function print in Python is one of the most used functions, it is used to display text or values on the output screen and can be Use it to display text, variables, or even the .results of calculations	Based on your understanding of variables, prepare simple Python programming codes.	With the help of your teacher, write a simple code using Python	Solve the book's questions
Weekly Assessment				Put (√) Or(x):- To know the type of a variable, we do not need to use the type () function ()			



Practical File

Lesson title	Practical applications	Pages
Lesson 1: Artificial Intelligence Applications	Create intelligent models to recognize images, sounds, and movements using machine .learning	13.....8
Lesson 2 Scratch program	Change the program interface language Project	43....40
Continue to Lesson4 Scratch program	Edit Project(1)	44
Continue to Lesson5-2 Sprites Area in Scratch	Project(2)	54-53
Follow Lesson 6 Principles of Python	How to download the program from the official website	64....60